REMARKS

Discussion of Amendments Herein

The specification has been amended at page 2 to correct an obvious error. The specification amendment is supported by the original specification, e.g., page 1, line 15 to page 2, line 1. Claim 8 has been rewritten as an independent claim. New claims 10-15 have been added and are directed to embodiments of the present invention. No new matter has been added by way of this Amendment.

The Office Action

The Office Action sets forth the following grounds for rejection: (1) claims 1-7 are rejected under 35 U.S.C. § 102(e), as allegedly anticipated by U.S. Patent 5,858,616 (Tanaka et al.); and (2) claims 1-8 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Tanaka et al. in view of U.S. Patent 5,922,395 (Koike et al.).

The Present Invention

The present invention relates to a process for forming a pattern of fluorescent substance into the cell for producing a fluorescent substance display device such as a plasma display panel. Claims 1-8 and 10-15 are currently pending. A complete set of pending claims is attached.

Discussion of Anticipation Rejection

Claims 1-7 are rejected under 35 U.S.C. § 102(e), as allegedly anticipated by Tanaka et al. Applicant respectfully traverses this rejection.

Tanaka et al. fails to disclose the presently claimed invention. Tanaka et al. teaches a single layer. Tanaka et al. teaches depositing a layer comprising a resin composition (A) and a photosensitive resin composition (B), and the fluorescent substance is contained in this layer. See, for example, column 2, lines 26-35. The phosphor (E) is present in the photosensitive resin composition. See, also column 14, lines 13-16 ("The process for preparing a fluorescent pattern of the present invention comprises coating the photosensitive resin composition of the present invention on a substrate for a plasma display panel and carrying out drying, exposure in a pattern state, development and then calcinations"). In contrast, the present invention recites two separate layers: the resin composition (A) layer and the photosensitive resin composition (B) layer. The fluorescent substance is not contained in the photosensitive resin composition layer.

In view of the foregoing, the anticipation rejection of claims 1-7 is improper and should be withdrawn. Claims 1-7 are also not obvious since, for example, there is an advantage resulting from the use of two separate layers in the present invention. It is possible to form the pattern of fluorescent substance uniformly to effectively emit the fluorescent substance filled in the cell and not to form pattern defects on the side and bottom wall of the cell during baking. Moreover, the amount of fluorescent substance can be decreased due to the realization of forming such pattern of fluorescent substance, see, e.g., page 3, lines 6-12 of the present specification.

Claims 10-15 also should not be rejected on this basis. Tanaka et al. fails to disclose a process involving the above two layers. Tanaka et al. also fails to disclose the recited order of placing the two layers.

Discussion of Obviousness Rejection

Claims 1-8 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Tanaka et al. in view of Koike et al. Applicant respectfully traverses this rejection.

As discussed, Tanaka et al. fails to disclose the presently claimed invention wherein the resin composition (A) layer and the photosensitive resin composition (B) layer exist inside the cell. Further, Tanaka et al. fails to disclose the presently claimed invention wherein the fluorescent substance is not contained in the photosensitive resin composition layer. The combination of Tanaka et al. and Koike et al. fails to suggest to those of ordinary skill in the art the presently claimed invention.

Further, Koike et al. teaches away from the invention recited in claims 8 and 10-15. In Koike et al., the fluorescent substance containing layer is formed above the photosensitive resin composition layer, while in the present invention, in contrast, the fluorescent substance containing layer (resin composition (A) layer) is formed under photosensitive resin composition layer. According to the present invention, it is possible to form the pattern of fluorescent substance uniformly to effectively emit the fluorescent substance filled in the cell and not to form pattern defects on the side and bottom wall of the cell during baking by forming the fluorescent substance-containing layer under the photosensitive resin composition layer. Moreover, the amount of fluorescent substance can be decreased due to the realization of forming such pattern of fluorescent substance. But this

effect cannot be realized by the method of Koike et al. See, e.g., page 2, lines 20 to 26 and page 3, lines 6 to 12 of the present specification.

In view of the foregoing, the obviousness rejection of claims 1-8 should be withdrawn and claims 10-15 also should not be rejected on this basis.

Conclusion

The application is considered in good and proper form for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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PATENT
Attorney Docket No. 400113/ASAHINA

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

HIROAKI SATOH

Application No. 09/271,447

Art Unit: 1762

Examiner: M. Cleveland

Filed: March 18, 1999

For: PROCESS FOR FORMING A PATTERN OF FLUORESCENT SUBSTRATE AND PLASMA DISPLAY PANEL

AMENDMENTS TO SPECIFICATION AND CLAIMS MADE IN RESPONSE TO OFFICE ACTION DATED JULY 12, 2001

Amendment to the paragraph beginning at page 2, line 17:

However, in the photo resist film described in Japanese Unexamined Patent Publication No. 273925/1994, there was not sufficiently investigated filling of fluorescent substance into the cell. On the other hand, in the process considering the filling described in Japanese Unexamined Patent Publication No. ~~273926/1994~~ 69339/1997, the filling amount of fluorescent substance into the cell was secured, but the fluorescent substance was not fixed uniformly and efficiently in a side and bottom wall of the cell (filling up property), since the photosensitive resin composition layer was laminated after forming the acrylic resin layer containing no fluorescent substance.

Amendments to existing claim:

8. (Amended) ~~The process for forming a pattern of fluorescent substance of Claim 1~~ A process for forming a pattern of fluorescent substance into the cell of a fluorescent substance display substrate, wherein a resin composition (A) layer, comprising an acrylic polymer (a) having a weight average molecular weight of 10000 to 300000 and an acid number of 80 to 250 mgKOH/g and a fluorescent substance (b), and a photosensitive resin composition (B) layer are formed inside the cell, and then they are exposed, developed and baked, wherein the

photosensitive resin composition (B) layer is formed in the cell after the resin composition (A) layer is formed.